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| **Lesson Title:** Simple Machines |
| **Subject area / course / grade level:** 5th grade Science |
| **Introduction:** Watch Brain Pop videos “Levers”, “Wheel & Axel”, “Pulley”, and “Inclined Planes.” What is the purpose of machines? How do machines help us work? Give examples. |
| **Lesson Length:** 45 minutes |
| **Materials:** Computer, promethean board, art materials, workbook, science notebook, science lab experiments. (You can make your own lever, wheel & axel and inclined plane or use the commercial ones.) |
| **Lesson Overview:** Simple machines will be connected to Standard 11 on motion and Standard 12 “forces in nature.” |
| **Tennessee Standards:** Standard 11 “motion”, Inquiry “data organization”, Standard 12 “forces in nature.” |
| **Lesson objective(s):** Explain the difference between the 6 simple machines. |
| **ENGAGEMENT**  Students will begin class by creating a table of the 6 simple machines in their science notebooks. We will then move into the workbook to read, discuss, and correct the material on simple machines. To wrap up the class the students will demonstrate their knowledge and understanding by drawing the simple machine they plan to construct for their project and label it. |
| **EXPLORATION**  Students will engage in a lab exploration with the six simple machines prepared by the teacher.  Create a foldable with drawings which explain each of the six simple machines.  The students will design and create an example of a simple or compound machine (due at a later date) with help from adults at home.  The students will demonstrate and explain their projects to the class while answering questions from the teacher and peers. |
| **EXPLANATION**  What is the definition of force?  What is the definition of work in science?  What is the importance of machines in our world?  What is the difference between a pulley and a block and tackle?  What are compound machines?  In order to get work done, what forces must be overcome? |
| **ELABORATION**  Use PowerPoint “Simple Machines” to evaluate mastery of simple machines.  Questioning techniques will be used during the presentation to verify understanding. Open discussion will be encouraged to connect concepts to real world experiences.  The last slide is a summary that will be added to the Science interactive notebook. |
| **EVALUATION**  Discuss and evaluate the foldable drawings which explain each of the six simple machines. |